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Subject Statement of Work



Kevin: Here is an electronic copy of the Statement of Work. sowmarch27-2007.doc

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APPENDIX C
STATEMENT OF WORK FOR
REMEDIAL DESIGN AND REMEDIAL ACTION (RD/RA)
RICHARDSON FLAT SITE, SUMMIT COUNTY, UTAH

EPA ID No. UT980952840

I. INTRODUCTION

1.1 PURPOSE OF THE STATEMENT OF WORK

The purpose of this statement of work (SOW) is to describe in general terms the requirements for the Remedial Design/Remedial Action (RD/RA) being implemented for the Richardson Flat site ("Site"), Park City, Utah, pursuant to the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended (CERCLA). Implementation of the RD/RA shall be performed by United Park City Mines (UPCM), a Potentially Responsible Party (PRP).

This SOW outlines the processes, standards, and deliverables that UPCM will use to design, construct, maintain, and evaluate the Remedial Action (RA) for the Site in Park City, Utah. The United States Environmental Protection Agency (EPA) set forth the selected remedy and remedial action requirements in the site-wide Record of Decision (ROD) dated July 6, 2005. This SOW is Appendix C to a Consent Decree (RD/RA Consent Decree) in which UPCM has agreed to implement the remedy described in the ROD.

1.2 OBJECTIVES

The primary objective of this SOW is to ensure that the selected remedy is implemented in compliance with the terms of the 2005 ROD and the RD/RA Consent Decree.

1.3 SITE DESCRIPTION

The Site is situated in a small valley in Summit County, Utah, located 1.5 miles northeast of Park City, Utah. The Site lies within the northwest quarter of Section 1 and northeast quarter of Section 2, Township 2 South, Range 4 East, Summit County, Utah, and is part of a 650 acre property owned by United Park City Mines (UPCM) Company. The Site is a tailings impoundment that covers 160 acres in the northwest corner of the UPCM property, a small portion of the much larger Upper Silver Creek Watershed. The Study Area Boundary as determined in the Focused Remedial Investigation (RI, RMC, 2004a) contains the tailings impoundment as well as adjacent areas impacted by historical use of the Site. Approximately 263 acres are contained within the Study Area Boundary. Silver Creek is the primary surface water source found in the area and is comprised of runoff from three significant drainages in the watershed, including Ontario Canyon, Empire Canyon and Deer Valley. The overall remedial goal for the watershed is to clean up the surrounding area, including the Richardson Flat Site, thereby eliminating current and future hazards to human health and the environment.

The Site is located at an elevation of approximately 6,600 feet above sea level and consists of a geometrically closed tailings impoundment contained by a main earthen dam on the west side, a containment dike system defining its southern and eastern perimeters, highway 248 on the north and two surface water run-off diversion ditches, south and east sides outside of the containment dike system. The South Diversion Ditch (SDD) flows into a wetland abutting Silver Creek. The area surrounding the impoundment consists of valley bottom topography surrounded by rolling hills. Silver Creek can be found on the northwest border of the Site, separated from the Site by a small stretch of wetlands and riparian vegetation. The impoundment was used as a mine tailings reservoir prior to 1950. The Site now houses approximately seven million tons of sand-sized carbonaceous particles and minerals containing zinc, silver, lead, and other metals. UPCM's active use of the Site for tailings disposal ended in 1982.

1.4 PERFORMANCE STANDARDS

The term "Performance Standards" refers to clean up standards, standards of control, quality criteria, and other substantive requirements, criteria, or limitations including all ARARs. The Performance Standards for the Site are set forth in the ROD, this SOW, and the EPA-approved Remedial Design/Remedial Action Work Plan ("RD/RA Work Plan"). The RD/RA Work Plan details the specific performance criteria which apply to design and construction of the selected remedy described in the ROD. UPCM shall implement the RA to meet all performance standards set forth in the ROD, this SOW, and the EPA-approved RD/RA Work Plan.

1.5 SUMMARY OF PREVIOUS INVESTIGATIONS

Since the 1970s, Park City Ventures (PCV), Noranda, EPA, and UPCM have conducted numerous environmental investigations relating to the Site. Because past investigation activities by PCV, Noranda and UPCM were performed without EPA oversight and with an unknown degree of Quality Assurance/Quality Control (QA/QC), the results from such investigations were incorporated into the Focused RI as screening level data. The Focused RI (RMC, 2004a), conducted in accordance with EPA-approved Sampling and Analysis Plan (SAP, RMC, 2001 and 2003), characterized the Site for selecting an appropriate remedy. The Focused Feasibility Study (FFS, RMC, 2004b) reviewed a range of alternatives based on National Contingency Plan (NCP) criteria including protection of Human Health and the Environment, Compliance with ARARs, Reduction of Toxicity, Mobility or Volume through Treatment, Effectiveness, Implementability and Cost. The Remedy described in the ROD (EPA, 2005) is based on the analysis conducted in the FFS (RMC, 2004b).

Surface water from the Site enters Silver Creek after passing through a wetland area in the northwest corner of the Site. There are three main sources of contamination at the Site: (1) the tailings contained within the tailings impoundment (Area A), (2) the tailings south of the diversion ditch (Area B) and (3) the tailings within the wetland area. There is a soil cover across the tailings impoundment (Area A) that was put in place by UPCM in the 1990s. The Focused RI/FFS evaluated the soil cover and showed it protects groundwater and other media at the Site

from becoming heavily contaminated. The risk assessment determined that under the current conditions, threats to human health are low. The selected remedy is intended to enhance and ensure the integrity of the soil cover, reinforce the tailings embankment, and protect surface and ground waters from additional metals loading by containing the low level threat waste, thereby mitigating and abating the actual and potential risks to human health or welfare or the environment at the Site. Further, institutional controls will minimize potential, future, uncontrolled, human contact with contamination in any of the Site media.

1.6 RECORD OF DECISION

The ROD, dated July 6, 2005, presents the selected remedy for the Richardson Flat Tailings Site. The ROD was developed in accordance with the requirements of CERCLA 1980, 42 U.S. Code (USC) §9601 et seq. as amended, and to the extent practicable, the National Oil and Hazardous Substances Pollution Contingency Plan (NCP), 40 CFR Part 300. The decision is based on the Administrative Record for the Site. The remedy was selected by EPA Region 8 with concurrence from the Utah Department of Environmental Quality (UDEQ).

The response action selected in the ROD is necessary to protect public health and the environment from actual or threatened releases of hazardous substances into the environment. Such a release or threat of release may present an imminent and substantial endangerment to public health or welfare or the environment.

II. **SCOPE OF WORK TO BE PERFORMED**

The scope of work includes all activities required to implement the remedial action described in the ROD and the EPA-approved final Remedial Design, operation and maintenance (O&M).

2.1 REMEDIAL ACTION OBJECTIVES

In the ROD, EPA established nine Remedial Action Objectives (RAOs) that, if achieved, are intended to render the Site safe for its intended uses. These RAOs are:

1. Reduce risks to wildlife receptors in the wetland area and south diversion ditch such that hazard indexes for lead are less than or equal to one.
2. Ensure that recreational users, including children, continue to have no more than a 5% chance of exceeding a blood lead level of 10 micrograms per deciliter from exposure to lead in soils.
3. Ensure that recreational users, including children, continue to have no more than 1×10^{-4} chance of contracting cancer from exposure to arsenic in soils.
4. Eliminate the risk of catastrophic failure of the tailings impoundment.
5. Ensure that surface water discharged from the Site meets applicable Utah water quality standards at all points of entry into Silver Creek.*
6. Eliminate the possibility of future ground water use and withdrawal at the Site.
7. Allow for a variety of future recreational uses.
8. Allow for future disposal of mine tailings from the Park City area within the tailings impoundment until the remedy is complete.
9. Minimize post-cleanup disturbance of tailings and contaminated soil. Provide controls that ensure any necessary disturbance at the Site follows prescribed methods.

*The applicable water quality standards consist of all standards in UAC R317-2.

2.2 SUMMARY OF THE SELECTED REMEDY

As described in the ROD, EPA evaluated several remedial alternatives for their ability to achieve the Site RAOs and to satisfy the nine remedy selection criteria established in the NCP. EPA determined that the selected remedy was capable of meeting all RAOs and best satisfied the nine criteria. The ROD describes the selected remedy in more detail. The selected remedy contains the following basic elements:

- Removal of contaminated materials in selected areas south of the South Diversion Ditch (Area B). Excavation would extend to the visual interface between the tailings and native soils or to a depth where a clay soil cover can be placed;

- Removal of contaminated materials in the wetland west of the main embankment. This would include excavation of contaminated material to achieve the Site's EPA selected ecological cleanup level of no more than 310 parts per million (ppm) lead in sediment. This activity will be performed only after remedial activities are completed on upstream contaminant sources in Silver Creek;
- Placing excavated materials in the impoundment. The impoundment will be used by UPCM and others to accommodate similar Bevill-exempt mine waste materials in the upper Silver Creek watershed;
- Placement of a twelve-inch thick (minimum), low permeability soil cover on areas where tailings are left in-place including the impoundment. The cover would be placed in six-inch lifts and machine compacted. Upon completion of the low permeability soil cover, a six-inch topsoil cover would be placed. The final surface cover will be a minimum of eighteen inches and surface will be graded to control surface stormwater runoff and drainage;
- UPCM will remove contaminated sediments in the ditch and pond;
- Installation of a rock wedge buttress along the oversteepened portion of the embankment (for about 400 feet of the total embankment length of 800 feet);
- Regrading and revegetation of areas affected by remedial activities at the Site. Areas in which tailings were removed would be restored, where possible, to existing topographic conditions;
- Well-ban or other mechanism described in a deed restriction to address ground water use;
- Appropriate land use restrictions to preclude non-recreational uses and ensure maintenance of the soil cover; and
- Monitoring Site vegetation, erosion, and surface water on a quarterly basis for two years. Surface water will be monitored for the full suite of metals (total and dissolved) and hardness, (1) at the mouth of the diversion ditch and (2) within Silver Creek above and below the Site to determine whether there are any changes in loading from the Site.

2.3 RD/RA STRATEGY, DELIVERABLES, AND OTHER TASKS

Much of the remediation work at Richardson Flat is directed towards improving or maintaining surface water quality and stopping any migration of contaminants into the environment through

ecological receptors. In order to design, construct, maintain, and evaluate the RA to EPA's approval and ensure the RA meets the RAOs, a remediation strategy will be followed.

With the exception of those areas where existing tailings will be covered, such as the main impoundment, the areas where tailings will be removed are all areas where the presence of tailings may have an impact on surface water quality. Because of this, initial remediation must commence in the most upstream areas. In the case of the Area B tailings, the area located easterly of the old airstrip and south of the County road must be remediated first. Water in this area flows generally from the west easterly towards the large pond in the southeast portion of the site.

Once this area is remediated, remediation can be implemented in the area of the southeast pond then move towards the Rail Trail and Southern Diversion Ditch (SDD). At this point in time, remediation efforts must be focused on the easternmost section of the SDD. This ditch flows from east to west. Area B remediation must follow this course as well. As remediation progresses through the SDD, those sections of the Area B tailings to be remediated that lie adjacent to the SDD can be remediated.

This upstream to downstream remediation procedure will assure that remediated areas will not be recontaminated from upstream remediation construction. This is the basis for waiting to complete the wetland remediation at the toe of the embankment until upstream Silver Creek sites are remediated.

A Remedial Design/Remedial Action Work Plan will be generated by UPCM for review and approval by EPA. This document will contain descriptions of the work to be performed and will describe each remediation task as reflected in the remediation strategy outlined above. It will also contain Sampling Plans, Quality Assurance Plans, Health and Safety Plans, a general Stormwater Management Plan and any other information needed to assure that the RA meets the RAOs.

Prior to the commencement of construction of any remediation task, UPCM will meet with EPA's RPM to discuss the work to be performed for each particular task. At these meetings, UPCM will provide a detailed description of the work to be performed as well as construction plans that graphically describe the work to be performed and measures taken to assure that proper erosion control measures are implemented. Any sampling activity will also be outlined. The EPA RPM will review these plans and have the ability to provide input at the meeting. During the construction, UPCM will provide weekly verbal or email progress updates if requested by the EPA RPM. Once any task is complete, UPCM will obtain the EPA RPM's approval before moving on to the next task. Construction of more than one task may be underway at any time. UPCM will provide graphic plans of the work as completed. These plans and any written documentation can be the basis for discussions concerning financial assurance and proof that a task has been completed.

2.4 OPERATION AND MAINTENANCE

O&M begins after EPA issues a Certification of Completion of the Remedial Action. In general, O&M consists of all activities described in the EPA-approved final O&M Plan including surface and groundwater monitoring, monitoring and maintenance of the on-site repository system and administration of institutional controls.

Following EPA's Certification of Completion of the RA, UPCM will continue monitoring surface and groundwater quality. Such groundwater and surface water quality monitoring shall be considered part of O&M and shall continue at a minimum for two years after construction or until it is demonstrated that all water quality standards have been achieved at all surface water sampling sites at Richardson Flat that may impact Silver Creek, using the protocols established in the EPA-approved final O&M Plan. If monitoring during this two-year period indicates that surface water contamination levels are above water quality standards (UAC R317-2) at the mouth of the diversion ditch or if there is an increased load to Silver Creek from the Site, UPCM shall continue monitoring if so directed by EPA. All activities necessary to maintain the integrity and monitor the effectiveness of the repository shall continue for 30 years after EPA approval of the Final Construction Completion Report.

2.5 PERIODIC REVIEW

UPCM shall conduct any studies and investigations requested by the EPA in order to permit EPA to conduct periodic reviews, as specified in the Consent Decree.

Because the selected remedy will result in hazardous substances remaining on-site above levels that allow for unlimited use and unrestricted exposure, a statutory review will be conducted within five years after initiation of the remedial action to ensure the remedy is, or will be, protective of human health and the environment. Such reviews will continue every five years indefinitely to ensure the remedy remains protective over time.

III. REMEDIAL ACTION CLOSEOUT

This section describes the activities and reports which follow certification that all Performance Standards specified in the ROD have been met by the Remedial Action.

3.1 CERTIFICATION OF COMPLETION OF THE REMEDIAL ACTION

Remedial Action shall not be deemed completed until EPA has issued a certification of completion of the Remedial Action pursuant to this section.

Within 90 days after UPCM concludes that all phases of the Remedial Action (before O&M) have been fully performed, UPCM shall schedule and conduct a pre-certification inspection to be attended by UPCM, EPA and DEQ. After the pre-certification inspection, if UPCM still believes that the Remedial Action has been fully performed, UPCM shall submit a written report by a registered engineer stating that the Remedial Action has been completed in full satisfaction of the requirements of the Consent Decree. The report shall contain the following statement, signed by a responsible corporate official of UPCM or UPCM Project Coordinator:

“To the best of my knowledge, after thorough investigation, I certify that the information contained in or accompanying this submission is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.”

If, after review of the written report, EPA, after reasonable opportunity for review and comment by DEQ, determines that any portion of the Remedial Action has not been completed in accordance with this Consent Decree, EPA will notify UPCM in writing of the activities that must be undertaken to complete the Remedial Action. EPA will set forth in the notice a schedule for the performance of such activities consistent with the Consent Decree, the SOW, or require UPCM to submit a schedule to EPA for approval. UPCM shall perform all activities described in the notice in accordance with the specifications and schedules established therein. If EPA concludes, based on the initial or any subsequent request for Certification of Completion by UPCM and after a reasonable opportunity for review and comment by DEQ, that the Remedial Action has been fully performed in accordance with the Consent Decree, EPA will so notify UPCM in writing.

3.2 FINAL O&M PLAN

UPCM shall submit the draft O&M Plan to EPA and the State for review concurrently. The O&M Plan shall describe the long term ground water and surface water monitoring required at the Site to ensure continued maintenance of the performance standards for ground water and surface water and protection of the Site repository system. The final O&M Plan shall incorporate comments provided by EPA on the draft O&M Plan.

IV. DELIVERABLES

UPCM will prepare the following deliverables and submit them to EPA for approval:

1. Remedial Design/Remedial Action Plan (RD/RA Work Plan). The RD/RA Work Plan will include design elements and activities for implementing the remedial alternative approved by the EPA and required to meet the Remedial Action Objectives.
2. Field Construction Plans (FCP). A FCP will be provided to the EPA RPM that details the construction efforts to be undertaken for a particular task. This will include stormwater management efforts to be undertaken for the particular task.
3. Task Completion Report (TCR). A TCR will be provided to the EPA RPM following the completion of a remediation task. This report will contain a detailed description of the work completed which will include plans and results from any sampling efforts undertaken.
4. Field Sampling Plan (FSP). A FSP will be prepared to address sampling associated with remedial construction and final closure confirmation sampling. The FSP will be included as an appendix to the RD/RA Work Plan.
5. Health and Safety Plan (HASP). A HASP will be prepared to address health and safety during remedial activities. The HASP will be included as an appendix to the RD/RA Work Plan.
6. Quarterly Progress Reports (QPR). Progress reports will be initiated at the start of the first quarter following the acceptance of this SOW and will continue on a quarterly basis thereafter (e.g. Jan-March, April-June, etc.). Progress reports will be submitted to EPA on the 10th day of the first month of the quarter (or the next business day if the 10th day falls on a weekend or holiday) and will summarize the previous quarter's activities, provide available data and discuss planned activities for the next quarter.
7. Data Validation Reports (DVR). Data validation reports will be prepared as separate submittals and identify qualified data as a result of the validation process.

8. Final Report (FR). A Final Report detailing the results of remediation will be prepared. This report will detail the final remedies and the results of characterization to determine if the remedies are complete.
9. O&M Plan. A draft and final O&M Plan will be prepared upon completion of the Remedial Action. The O&M Plan will describe long-term monitoring required at the Site to ensure continued maintenance of the Performance Standard for surface water and protection of the Site repository system.

IV. SCHEDULE OF DELIVERABLE AND SUBMITTAL TIMEFRAMES

DELIVERABLE

DUE DATE

Remedial Design Remedial Action Planning Documents

Draft RD/RA Work Plan	60 days from the court's entry of the CD
Draft Field Construction Plan	60 days from the court's entry of the CD
Draft Health and Safety Plan	60 days from the court's entry of the CD
Draft Sampling and Analysis Plan	60 days from the court's entry of the CD
Draft Quality Assurance Project Plan	60 days from the court's entry of the CD
Draft Field Sampling Plan	60 days from the court's entry of the CD
Final RD Work Plan, SAP, QAPP, HSP	60 days from PRPs receipt of EPA comments on drafts

Remedial Action Support Plans

Draft Operations & Maintenance Plan	Concurrent with Final RD/RA Work Plan
Final Operations & Maintenance Plan	30 days after EPA approval of final RD/RA Work Plan

Remedial Action Requirements

Final Update of Remedial Design Planning Docs	30 days after EPA approval of draft RD/RA Work Plan
Remedial Action Construction Oversight	During all construction activities

Pre-certification Inspection

Within 90 days of completion of
construction of remedy

Certification Inspection

Within 90 days of completion of
Remedial Action

Project Closeout Reporting

Periodic Review Reports

Concurrent with EPA Periodic
Reviews, no less often than each
five years from the date of
initiation of the RA, as specified by
EPA.

Regular Reporting

Quarterly Progress Reports

By the 10th of the month after the
Previous reporting period until all
Portions of the RD/RA are complete

O&M Monitoring

Quarterly, on or before the tenth day
following the conclusion of the
reporting period

V. REFERENCES

Resource Management Consultants, Inc (RMC), 2004a, Focused Remedial Investigation (RI)
Report for Richardson Flat, Site ID Number: UT980952840.

Resource Management Consultants, Inc (RMC), 2004b, Focused Feasibility Study Report
(FOCUSED FS) for Richardson Flat, Site ID Number: UT980952840

United States Environmental Protection Agency (EPA), 2005, Record of Decision, Richardson
Flat tailings Site.